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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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|-----------------|-------------|----------------------|---------------------|------------------|

09/669,384

09/26/2000

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NWA-15602/04

3384

7590

08/11/2004

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EXAMINER

PATEL, SHEFALI D

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 08/11/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/669,384

Applicant(s)

SUMI ET AL.

Examiner

Shefali D Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 21, 2004 has been entered.

Response to Amendment

1. The amendment and response after final rejection was received on May 21, 2004.

Response to Arguments

2. Applicant's arguments filed on May 21 2004 (remarks on pages 5-6) have been fully considered but they are not persuasive. Applicants' argue at bottom of page 5 on to page 6 that "Applicant submits that the '006 reference can trace movements of a polyhedron such as an object constituted by building blocks based on extracted edges, but cannot trace movements of an arbitrarily curved object such as banana." The examiner disagrees. '006 reference discloses a curved and smooth surface of the object at col. 5 line 59 to col. 6 lines 1-19, Figures 15-16 (See rejection of claim 1 for more details).

Applicants' further argue on page 6 that "the '006 reference recognizes the banana as a different object depending on an observing point and cannot trace movements of the banana in this manner. The present invention, however, can recognize an arbitrarily curved object substantially as it is." The examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's

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invention, it is noted that the feature upon which applicant relies (i.e., “recognizing an arbitrarily curved object substantially as it is”) is not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumi et al. (USPN 5,845,006).

With regard to **claim 1**, Sumi et al. (hereinafter, “Sumi”) discloses an object motion tracing method for tracing the three-dimensional (hereinafter, “3-D”) motion of an object, having an arbitrarily curved and smooth surface (arbitrarily curved surface object is disclosed in Figure 16, see, col. 6 lines 1-2 and 17-19; Smooth surface object is disclosed in Figure 15 having a solid (i.e., smooth) line, see, col. 5 lines 58-60), based on the stereo image of the object concerned obtained in time series (as described in Fig. 2), composed of: a selecting step for selecting tracing points corresponding to the silhouette of the object concerned in the stereo image of the object (which corresponds to tracing points of the edges of the object, the edges of the object being the silhouette, are selected at step S4, in Fig. 2, and col. 2 lines 60-61); a sampling step for sampling from the above-

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mentioned stereo image the corresponding points on the silhouette of the object corresponding to respective tracing points (step S5 in Fig. 2, col. 2 lines 61-62); a measuring step for measuring the 3-D coordinates of the sampled corresponding points (step S6 in Fig. 2, col. 2 lines 62-64); and a detecting step for detecting the position/posture of the object from the 3-D coordinates of those respective tracing points and respective corresponding points (step S7 in Fig. 2, col. 2 lines 64-65),

Wherein, the 3-D motion of aforesaid object is traced by continuously repeating each process from the selecting step through the detecting one toward each frame of the stereo image obtained in time series. This feature is considered inherent because it would be necessary to repeat the steps identified above for each of the frames, until satisfactory results of the tracing points for tracing the three dimensional motion of an object is obtained.

Claim 5 recites identical features, as claim 1 except claim 5 is a recording media claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 5.

Note, Sumi discloses recording media in Figure 1, col. 2 lines 40-55.

With regard to **claim 2**, Sumi discloses the 3-D geometric model of an object being used to select the tracing points on the selecting step. As seen from Fig. 3 to Fig. 10 that 3-D model of an object is being used. Sumi discloses selection of tracing points at col. 3 line 56.

With regard to **claim 3**, Sumi discloses the 3-D coordinates being measured by stereo vision applying stereo correspondence on the measuring step at col. 4 lines 35-53.

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With regard to **claim 4**, Sumi discloses the 3-D coordinates being measured by monocular vision (i.e., single-eyed view) on the measuring step at col. 4 lines 54-62.

Claim 6 recites identical features, as claim 2 except claim 6 is a recording media claim. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 6.

Claim 7 recites identical features, as claim 3 except claim 7 is a recording media claim. Thus, arguments similar to that presented above for claim 3 is equally applicable to claim 7.

Claim 8 recites identical features, as claim 4 except claim 8 is a recording media claim. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 8.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DANIEL MIRIAM
PRIMARY EXAMINER
August 3, 2004

Shefali D Patel
Examiner
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